Volume 92, Number 6, November–December 1987
Journal of Research of the National Bureau of Standards

Subject and Author Index to Volume 92

A

absolute cross-section measurements 229
acoustic calibrations and measurements 129
alpha-particle counting systems 311
aluminum alloy 27
anechoic chamber measurements 129
anharmonicities 35
attenuation 253
Automated potentiometric system for precision measurement of the quantized Hall resistance, An 303

B

Bright, S. J., and J. M. R. Hutchinson, The NBS large-area alpha-particle counting systems 311
Bruno, Thomas J., Catalytic cracking as the basis for a potential detector for gas chromatography 261
Burnett, Edwin D., and Victor Nedzelnitsky, Free-field reciprocity calibration of microphones 129

C

Cage, Marvin E., and Giancarlo Marullo Reedtz, An automated potentiometric system for precision measurement of the quantized Hall resistance 303
calibration in QQQ instruments 229
calibration of far ultraviolet detector standards 97
calibration of microphones 129
calibrations of radiance temperature 17
candela 335
Canfield, L. Randall, and Nils Swanson, Far ultraviolet detector standards 97
Capobianco, T. E., and J. C. Moulder, Detection and sizing of surface flaws with a SQUID-based eddy current probe 27
Carino, Nicholas J., and Mary Sansalone, Transient impact response of plates containing flaws 369
Carino, Nicholas J., and Mary Sansalone, Transient impact response of thick circular plates 355
Carino, Nicholas J., Nelson N. Hsu, and Mary Sansalone, A finite element study of the interaction of transient stress waves with planar flaws 279
Carino, Nicholas J., Nelson N. Hsu, and Mary Sansalone, A finite element study of transient wave propagation in plates 267
cascode amplifier 383
catalytic cracking 261
Catalytic cracking as the basis for a potential detector for gas chromatography 261
centrifugal effects 35
circular plates 355
CODATA recommended values of the fundamental physical constants, The 1986 85
Cohen, E. Richard, and Barry N. Taylor, The 1986 CODATA recommended values of the fundamental physical constants 85
Colclough, A. R., Two theories of experimental error 167
concrete 279
consultative committee on electricity 55
Continuity of the meter: The redefinition of the meter and the speed of visible light, The 11
conversion factors 85
critical dimension measurement 187, 205
cross-section measurements in QQQ instruments 229
cross sections 229

D

Davis, R. S., Note on the choice of a sensitivity weight in precision weighing 239
dc SQUIDs for rf power measurements 253
Description of the thermotropic behavior of membrane bilayers in terms of Raman spectral parameters: A two-state model 113
Detection and sizing of surface flaws with a SQUID-based eddy current probe 27
detectors 97, 261
Dheandhanoo, Seksan, and Richard I. Martinez, Instrument-independent CAD spectral databases: Absolute cross-section measurements in QQQ instruments 229
dimensional metrology 205
Drullinger, R. E., K. M. Evenson, C. R. Pollock, J. S. Wells, and D. A. Jennings, The continuity of the meter: The redefinition of the meter and the speed of visible light 11

E

eddy current testing 27
electrical metrology 303
electrical units 55
ellipsoidal shell 35
error theory 167
Evenson, K. M., C. R. Pollock, J. S. Wells, D. A. Jennings, and R. E. Drullinger, The continuity of the meter: The redefinition of the meter and the speed of visible light 11
experimental errors 167

F

Far ultraviolet detector standards 97
finite element analysis 267, 279
Finite element study of the interaction of transient stress waves with planar flaws, A 279
Finite element study of transient wave propagation in plates, A 267
flaw 279, 369
flaw sizing 27
Free-field reciprocity calibration of microphones 129
frequency 11

frequency-based distributions 167
frequency spectrum analysis 369
fundamental physical constants 85

G

gas thermodynamic functions for water 35
gas chromatography 261
gold-point blackbody 17
Green's function, stress waves with planar flaws 279
Green's function, transient wave propagation in plates 267

H

Hamiltonian 35
Hattenburg, Albert T., William R. Waters, and James H. Walker, The NBS scale of radiance temperature 17
Hsu, Nelson N., Mary Sansalone, and Nicholas J. Carino, A finite element study of transient wave propagation in plates 267
Hsu, Nelson N., Mary Sansalone, and Nicholas J. Carino, A finite element study of the interaction of transient stress waves with planar flaws 279
Hutchinson, J. M. R., and S. J. Bright, The NBS large-area alpha-particle counting systems 311

I

Ideal gas thermodynamic functions for water 35
image reconstruction 325
imaging 325
impact-echo method 369
impact-echo method of stress waves with planar flaws 279
impact-echo method of transient wave propagation in plates 267
impact response of plates containing flaws 369
impact response of thick circular plates 355
Instrument-independent CAD spectral databases: Absolute cross-section measurements in QQQ instruments 229
international 335
International intercomparisons of photometric base units 335

J

Jefferts, Steven R., and F. L. Walls, A low noise cascode amplifier 383
Jennings, D. A., R. E. Drullinger, K. M. Evenson, C. R. Pollock, and J. S. Wells, The continuity of the meter: The redefinition of the meter and the speed of visible light 11
Josephson effect 55
Joy, David C., and Michael T. Postek, Submicrometer microelectronics dimensional metrology: Scanning electron microscopy 205

K

Kirchhoff, William H., and Ira W. Levin, Description of the thermotropic behavior of membrane bilayers in terms of Raman spectral parameters: A two-state model 113

L

large-area alpha-particle counting systems 311
Larrabee, Robert D., and Diana Nyyssonen, Submicrometer linewidth metrology in the optical microscope 187
laser 11
least-squares adjustments 85
Levin, Ira W., and William H. Kirchhoff, Description of the thermotropic behavior of membrane bilayers in terms of Raman spectral parameters: A two-state model 113
linewidth metrology in the optical microscope 187
linewidth, scanning electron microscopes 205
logistic function 113
low bias current amplifier 383
Low noise cascode amplifier 383
low noise FET amplifier 383
luminous intensity 335
luminous flux 335

M

Martinez, Richard I., and Seksan Dheandhanoo, Instrument-independent CAD spectral databases: Absolute cross-section measurements in QQQ instruments 229
mass metrology 239
membrane 113
meter 11
metrology of microphones 129
micrometrology 187
microphone calibration 129
microscopy 187
Mielenz, Klaus D., International intercomparisons of photometric base units 335
monitoring 311
Mossbauer effect 325
Mossbauer imaging 325
Mossbauer tomography 325
Moulder, J. C., and T. E. Capobianco, Detection and sizing of surface flaws with a SQUID-based eddy current probe 27

N

NBS large-area alpha-particle counting systems, The 311
NBS scale of radiance temperature, The 17
Nedzelnitsky, Victor, and Edwin D. Burnett, Free-field reciprocity calibration of microphones 129
noise analysis 383
noise cascode amplifier 383
noise current 383
noise voltage 383

nondestructive evaluation 27
nondestructive testing 267, 279
Norton, Stephen J., Moessbauer imaging 325
Note on the choice of a sensitivity weight in precision weighing 239
Nyyssonen, Diana, and Robert D. Larrabee, Submicrometer linewidth metrology in the optical microscope 187

O

ohm 55, 303
optical metrology 187
orthodox theory of errors 167

P

Peterson, Robert L., Sinusoidal response of dc SQUIDs for rf power measurements 253
phase transition 113
photodiodes 97
photoionization 97
photometric base units 335
photometry 335
plane-wave free-field acoustic measurements 129
plate response 267
plates containing flaws 369
Pollock, C. R., J. S. Wells, D. A. Jennings, R. E. Drullinger, and K. M. Evenson, The continuity of the meter: The redefinition of the meter and the speed of visible light 11
Pontek, Michael T., and David C. Joy, Submicrometer microelectronics dimensional metrology: Scanning electron microscopy 205
potential detector for gas chromatography 261
precision weighing 239
precision measurement of the quantized Hall resistance 303
process-control metrology 187
proportional counting 311

Q

quantized Hall resistance 303
quantum efficiency 97
quantum Hall effect 55

R

radiance temperature 17
radioactivity 311
Raman spectroscopy 113
random errors 167
randomatic theory of errors 167
reciprocity calibration methods 129
recommended values 85
redefinition of the meter and the speed of visible light 11
Reeditz, Giancarlo Marullo, and Marvin E. Cage, An automated potentiometric system for precision measurement of the quantized Hall resistance 303
reflection probe 27
Report on the 17th session of the consultative committee on electricity 55
resistance standards 303
response linearity 17
response of plates containing flaws 369
response of thick circular plates 355
rf measurements 253

S

Sansalone, Mary, and Nicholas J. Carino, Transient impact response of plates containing flaws 369
Sansalone, Mary, and Nicholas J. Carino, Transient impact response of thick circular plates 355
Sansalone, Mary, Nicholas J. Carino, and Nelson N. Hsu, A finite element study of the interaction of transient stress waves with planar flaws 279
Sansalone, Mary, Nicholas J. Carino, and Nelson N. Hsu, A finite element study of transient wave propagation in plates 267
scale of radiance temperature 279
scanning electron microscopy 205
SEM 205
semi-axes 35
sensitivity weight in precision weighing 239
Sinusoidal response of dc SQUIDs for rf power measurements 253
sizing of surface flaws 27
speed of light 11
SQUID 253
standards of radiance temperature 17
standards, methods for free-field calibration of microphones 129
standards, scanning electron microscope metrology 205
stress wave propagation 267
stress waves with planar flaws 279
subjectivist distributions 167
Submicrometer linewidth metrology in the optical microscope 187
Submicrometer microelectronics dimensional metrology: Scanning electron microscopy 205
substitution weighing 239
superconducting quantum interference device 27
superconductivity 253
surface flaws with a SQUID-based eddy current probe 27
Swanson, Nils, and L. Randall Canfield, Far ultraviolet detector standards 97
systematic errors 167

T

tandem mass spectrometry 229
target thickness 229
task group on fundamental constants 85
Taylor, B. N., Report on the 17th session of the consultative committee on electricity 55
Taylor, Barry N., and E. Richard Cohen, The 1986 CODATA recommended values of the fundamental physical constants 85
thermotropic behavior of membrane bilayers in terms of Raman spectral parameters 113

tomographic image reconstruction 325
traceability 129
transducer calibration (reciprocity) 129
Transient impact response of plates containing flaws . 369
Transient impact response of thick circular plates 355
transient wave propagation in plates 267
transposition weighing 239
tungsten-strip lamps 17
Two theories of experimental error 167
two-state model 113

U

ultraviolet detector standards 17

V

values of the fundamental physical constants 85
vibrational states 35
volt 55

W, X, Y, Z

Walker, James H., Albert T. Hattenburg, and William R. Waters, The NBS scale of radiance temperature 17
Walls, F. L., and Steven R. Jefferts, A low noise cascode amplifier 383
Waters, William R., James H. Walker, and Albert T. Hattenburg, The NBS scale of radiance temperature 17
wave propagation 279
weighing 239
Wells, J. S., D. A. Jennings, R. E. Drullinger, K. M. Evenson, and C. R. Pollock, The continuity of the meter: The redefinition of the meter and the speed of visible light 11
Woolley, Harold W., Ideal gas thermodynamic functions for water 35